UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/809,376	03/26/2004	Olav Lysne	1380-0191PUS2	7638

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EXAMINER
PATEL, CHANDRAHAS B

ART UNIT	PAPER NUMBER
2616	

NOTIFICATION DATE	DELIVERY MODE
08/08/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS,
WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 May 2008*.
2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
     closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13* is/are pending in the application.
     4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) *1-13* is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
     a)☐ All   b)☐ Some * c)☐ None of:
       1.☐ Certified copies of the priority documents have been received.
       2.☐ Certified copies of the priority documents have been received in Application No. _____.
       3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
         application from the International Bureau (PCT Rule 17.2(a)).
     * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
     Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
     Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____ .

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1.   A request for continued examination under 37 CFR 1.114, including the fee set forth in

37 CFR 1.17(e), was filed in this application after final rejection. Since this application is

eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e)

has been timely paid, the finality of the previous Office action has been withdrawn pursuant to

37 CFR 1.114. Applicant's submission filed on 4/10/2008 has been entered.

Response to Arguments

2.   Applicant's arguments filed 4/10/2008 have been fully considered but they are not

persuasive. Applicant argues that the applicant's invention is related to deadlock free routing of

network packets. Applicant further explains in remarks and by way of drawings what a network

deadlock is. However, the claims do not explain the features of deadlock free routing of

networks packets. Any configuration that prevents deadlocks or lets packet communication to

continue without causing a deadlock is deadlock free. Khosravi teaches changing routing

configuration to let the packet communication continue without causing any deadlocks.

Claim Rejections - 35 USC § 102

3.   The text of those sections of Title 35, U.S. Code not included in this action can be found

in a prior Office action.

4.   Claims 1-6, 8-13 are rejected under 35 U.S.C. 102(e) as being anticipated by Khosravi et

al. (USPN 7,200,146).

        Regarding claim 1, Khosravi teaches a method for deadlock free altering of a network

routing in a network with flow control on the link level, the network routing is from a first

routing function R_{old}, defining an established connection between a pluralities of communication input ports I_1.... I_n and output ports O_1.... O_m, in a network element, to a second routing function R_{new}, defining a new connection between the input and output ports, for execution by the network element for transmitting and receiving data packets **[Col. 8, lines 31-33, Fig. 6, altering routing table will avoid deadlocks and also change connections between input and outputs]**, the method comprising: (1) for each input port I_i, performing the following steps: (la) applying the first routing function R_{old} for the input port **[Col. 7, lines 53-55]**, (1b) receiving a token on an input port I_i **[Col. 8, lines 16-18, update message is the token]**, (1c) applying the second routing function R_{new} for the input port I_i **[Col. 8, lines 34-38, in response to new switch-label]**, (1d) forwarding data packets to every Output port O_j associated with the input port I_i according to the second routing function R_{new}, provided that the output port O_j has transmitted the token **[Col. 9, lines 39-44]**, (2) for each output port O_j, performing the following steps; (2a) determining if the token has been received on all input ports associated with the output port O_j according to the first routing function R_{old} **[Fig. 8, Col. 9, lines 31-44]**, (2b) transmitting the token on the output port O_j when the token has been received on all input ports **[Fig. 9, Col. 9, lines 51-56]**.

　　　　Regarding claim 2, Khosravi teaches the network element is a switch **[Fig. 10, 1025]**.

　　　　Regarding claim 3, Khosravi teaches the token is included in a data packet **[Col. 8, lines 19-23, message generated by routers are in a data packet]**.

　　　　Regarding claim 4, Khosravi teaches the method is applied to deterministic routing functions **[Col. 8, lines 17-19]**.

Regarding claim 5, Khosravi the method is applied to adaptive routing functions **[Col. 8,
lines 23-28, OSPF is adaptive routing function as routes can change depending on available
shortest path]**.

Regarding claim 6, Khosravi teaches the method is applied to source routing **[Col. 8,
lines 7-12, applicant describes source routing as per packet routing which is taught by
reference]**.

Regarding claim 8, Khosravi teaches the method is applied to only parts of a complete
network **[Col. 8, lines 39-41]**.

Regarding claim 9, Khosravi teaches a network element **[Fig. 10, 1010]**, comprising a
plurality of output ports for transmitting data packets to other network elements in a network
[Fig. 10, Ports 1-6], a plurality of input ports for receiving data packets from other network
elements in the network **[Fig. 10, Ports 1-6]**, a processing device **[Fig. 10, 1025]**, a memory,
characterized in that the processing device is arranged to perform a method claim 1 **[Col. 11,
lines 9-13]**.

Regarding claim 10, Khosravi teaches routing functions are implemented as table stored
in memory **[Fig. 10, 1027]**.

Regarding claim 11, Khosravi teaches memory comprises computer program
instructions arranged to perform the method when executed by the processing device **[Col. 11,
lines 9-13]**.

Regarding claim 12, Khosravi teaches a computer network system, comprising a number
of network elements according to claim 9 **[Fig. 10]**.

Regarding claim 13, Khosravi teaches a computer program, embodied on a storage medium or in a memory **[Col. 10, lines 11-15]**, for execution by a processing device in a network element **[Col. 11, lines 9-13]**, characterized in that the program comprises a set of instructions arranged to perform a method according to claim 1 when executed by the processing device in the network element **[Col. 11, lines 14-19]**.

Claim Rejections - 35 USC § 103

5.   Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Khosravi et al. (USPN 7,200,146) in view of Oprescu (USPN 5,784,557).

Regarding claim 7, Khosravi teaches a method as discussed in rejection of claim 5.

However, Khosravi does not teach reducing the cyclic dependency graph to non-cyclic graph.

Oprescu teaches reducing the cyclic dependency graph to non-cyclic graph **[Abstract]**.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to reduce the cyclic dependency graph to non-cyclic graph so that a direction for the data packet can be established **[Col. 6, lines 44-48]**.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chandrahas Patel whose telephone number is (571)270-1211. The examiner can normally be reached on Monday through Thursday 7:30 to 17:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on 571-272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

                                                    /Ricky Ngo/
                                                    Supervisory Patent Examiner, Art Unit
                                                    2616

/Chandrahas Patel/
Examiner, Art Unit 2616